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At
a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector, wherein said retaining member is captured by said extending section of said body extension when said sprinkler head is activated.

Sub B1
6. (Amended)

02
A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;

a body extension attached to said sprinkler body and having an extending section extending beyond said outlet of said sprinkler body;

a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position, and wherein said at least one support arm has a generally larger shaped middle section;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

7. (Amended)

A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;

a body extension attached to said sprinkler body and having an extending section extending beyond said outlet of said sprinkler body;

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a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position, and wherein said at least one support arm has an upper section, and wherein said retaining member is configured to receive said upper section of said at least one support arm;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

8. (Amended)

A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;

a body extension attached to said sprinkler body and having an extending section extending beyond said outlet of said sprinkler body;

a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position, and wherein said retaining member is an annular ring having an outer periphery, said outer periphery having at least one notch formed therein, wherein said at least one support member has an upper section dimensioned for receipt by said at least one notch;

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CS
a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

Sub B1

10. (Amended)

A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;

a body extension attached to said sprinkler body and having an extending section extending beyond said outlet of said sprinkler body;

CS
a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated, and wherein said sprinkler body has a bottom formed with an annular shoulder and said sealing assembly further comprises an annular spring positioned within said annular shoulder and a rod formed with a section extending through said annular spring, said rod configured to place said annular spring in compression when said sprinkler head is inactive; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

Sub B1

13. (Amended)

CS
A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;

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a body extension attached to said sprinkler body and having an extending section extending beyond said outlet of said sprinkler body, wherein said body extension is formed with at least one air exhaust port;

a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

Sub B1

17. (Amended)

The sprinkler head of claim 15, wherein said extending section is formed with an inwardly extending member, said inwardly extending member arresting the movement of said retaining member when said sprinkler head is activated.

Sub B3

30. (Amended)

The sprinkler head as recited in claim 31, wherein said annular ring and said at least one attachment arm are monolithic.

31. (Amended)

A sprinkler head for a fire extinguishing system comprising:

a sprinkler body having an orifice, said orifice having an inlet and an outlet;

a slidable deflector support assembly at least partially positioned within said central orifice, said deflector support assembly including an annular ring and at least one attachment arm depending from said annular ring and attached to said deflector, wherein said annular ring has an outer diameter, and wherein said sprinkler head further comprises a retaining ring positioned within said orifice, said retaining ring having an inner diameter, and wherein said inner diameter of said retaining ring is less than said outer diameter of said annular ring;

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Q6
a deflector carried by said deflector support assembly and positioned in proximity to said outlet;

a trigger assembly carried by said sprinkler body;

a sealing member positioned within said orifice; and

a sealing assembly carried by said sprinkler body, said sealing assembly configured to urge said sealing member into sealing engagement with said inlet of said orifice.

Please enter the following new claims:

Sub E

39. (New)

Q7
The sprinkler head according to Claim 3, wherein said body extension has a generally cylindrical shape.

40. (New)

The sprinkler head of according to Claim 39, wherein said extending section is formed with an inwardly extending member.

REMARKS

Applicants gratefully acknowledge the Examiner's review of the specification, claims, and drawings and indication of allowable subject matter. The amendments presented herein are fully supported by the application as filed. No new matter has been entered. In light of the above amendments and following remarks, Applicants respectfully request reconsideration of the present application.

STATUS OF THE CLAIMS:

Claims 1-28, 30-34, 39, and 40 are pending in the application. Claims 29 and 35-38 have been cancelled herein. Claims 15-28 have been allowed. Applicants, however, have amended Claim 17 to correct a typographical error in line 1. Claims 7-11, 13, 14, and 31-34 were indicated as being allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. Claims 7, 8, 10, 13, and 31 have been rewritten in independent form. Accordingly, Applicants respectfully submit that Claims 7-11, 13, 14, and 30-34 are now allowable.

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CLAIM REJECTIONS UNDER 35 U.S.C. § 102:

Claims 1-5, 12, 29, and 30 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,152,344 to Fischer et al.

Applicants respectfully traverse. Applicants respectfully submit that Fischer et al. do not disclose or suggest the claimed combination. "A claim is anticipated if only each and every limitation as set forth in the claim is found, either expressly or inherently, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown as in complete detail as contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Applicants respectfully urge that Fischer et al. do not disclose or suggest, for example, a trigger assembly carried by a body extension and operably connected with a sealing assembly and a deflector, as called for in the claim. In contrast, the trigger assembly in Fischer is carried by the sprinkler head frame arms. Nor would be it be obvious to modify Fischer to meet the claimed invention.

With respect to Claim 3, Claim 3, which has been rewritten in independent form, further calls for the retaining member to be captured by the body extension when the sprinkler head is activated. Applicants respectfully urge that Fischer et al. do not disclose or suggest, for example, a body extension capturing a retaining member as called for in the claim.

With respect to Claim 4, Claim 4 further calls for the extending section of the body extension to be formed with an inwardly extending member, which halts movement of the retaining member when the sprinkler head is activated. Applicants respectfully submit that Fischer does not disclose or suggest the claimed combination. Referring to Figure 5, the movement of the retaining member (as designated by the Examiner as 50) is halted by

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enlarged ends 42 of the retaining member—not a body extension. Therefore, Applicants respectfully submit that Claim 4 is further patentably distinguishable over Fischer et al. alone or in combination with any other reference of record.

With reference to Claim 5, which depends from Claim 4, Claim 5 further calls for the inwardly extending member of the body extension to comprise an annular rim. Again, Applicants respectfully submit that Fischer does not disclose or suggest the claimed combination.

Therefore, Applicants respectfully submit that Claim 1 and its dependent claims, namely Claims 2, 4, 5, and 12, and Claim 3 are patentably distinguishable over Fischer et al. alone or in combination with any other reference of record.

With respect to Claims 29 and 30, Claim 29 has been cancelled and Claim 30 has been amended to depend from allowable Claim 31.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103:

The Examiner rejects Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Fischer et al. stating “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to have a generally larger shaped middle section [of the at least one support arm], since such modification would involve[d] a mere change in the size of a component which is generally recognized as being within the level of ordinary skill in the art.”

Applicants respectfully traverse. The Examiner alleges correspondence between Applicants’ claimed invention and Fischer and, further, identifies the numeral 14 as designating the support arm that corresponds to the Fischer sprinkler head. However, Applicants respectfully submit that it would not be obvious to provide support arm 14 of Fischer with an enlarged medial section since such a proposed modification would hinder the movement of the deflector outwardly and, therefore, destroy the principal operation of the

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Fischer sprinkler head. Such a modification would, therefore, not be obvious. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Therefore, Applicants respectfully submit that Claim 6 is patentably distinguishable over Fischer et al. alone or in combination with any other reference of record.

In light of the above amendments and remarks, Applicants respectfully request reconsideration of the present application and a Notice of Allowance of all claims, namely, Claims 1-28 and 30-34 and new Claims 39 and 40.

Should the Examiner have any questions or comments, the Examiner is invited to contact the undersigned at (616) 975-5506.

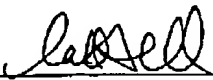
Respectfully submitted,

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By: Van Dyke, Gardner, Linn and Burkhart, LLP

Date:

February 28, 2003


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Enclosures

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APPENDIX OF CLAIMS

3. (Amended)

[The] A sprinkler head [for claim 1] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body;
a retaining member positioned beyond said outlet and within said body extension, said
retaining member mounted to be movable relative to said body extension and said sprinkler
body;
a deflector movable between an activated position and a storage position within said
body extension and having at least one support arm projecting therefrom, said retaining
member coupled to said at least one support arm at a fixed distance from said retaining
member, said support arm movably disposed within said body extension, wherein said
deflector and said retaining member are positioned within said body extension when in said
storage position;
a sealing assembly configured to sealingly engage said outlet of said sprinkler body,
said sealing assembly movable from a closed position wherein said sprinkler head is inactive
to an open position wherein said sprinkler head is activated; and
a trigger assembly carried by said body extension and operably connected with said
sealing assembly and said deflector, wherein said retaining member is captured by said
extending section of said body extension when said sprinkler head is activated.

6. (Amended)

[The] A sprinkler head [of claim 1,] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body;
a retaining member positioned beyond said outlet and within said body extension, said
retaining member mounted to be movable relative to said body extension and said sprinkler
body;

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a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position, and wherein said at least one support arm has a generally larger shaped middle section;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

7. (Amended)

[The] A sprinkler head [of claim 1,] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body;

a retaining member positioned beyond said outlet and within said body extension, said retaining member mounted to be movable relative to said body extension and said sprinkler body;

a deflector movable between an activated position and a storage position within said body extension and having at least one support arm projecting therefrom, said retaining member coupled to said at least one support arm at a fixed distance from said retaining member, said support arm movably disposed within said body extension, wherein said deflector and said retaining member are positioned within said body extension when in said storage position, and wherein said at least one support arm has an upper section, and wherein said retaining member is configured to receive said upper section of said at least one support arm;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

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8. (Amended)

[The] A sprinkler head [of claim 1,] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body;
a retaining member positioned beyond said outlet and within said body extension, said
retaining member mounted to be movable relative to said body extension and said sprinkler
body;
a deflector movable between an activated position and a storage position within said
body extension and having at least one support arm projecting therefrom, said retaining
member coupled to said at least one support arm at a fixed distance from said retaining
member, said support arm movably disposed within said body extension, wherein said
deflector and said retaining member are positioned within said body extension when in said
storage position, and wherein said retaining member is an annular ring having an outer
periphery, said outer periphery having at least one notch formed therein, wherein said at least
one support member has an upper section dimensioned for receipt by said at least one notch;
a sealing assembly configured to sealingly engage said outlet of said sprinkler body,
said sealing assembly movable from a closed position wherein said sprinkler head is inactive
to an open position wherein said sprinkler head is activated; and
a trigger assembly carried by said body extension and operably connected with said
sealing assembly and said deflector.

10. (Amended)

[The] A sprinkler head [of claim 1,] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body;
a retaining member positioned beyond said outlet and within said body extension, said
retaining member mounted to be movable relative to said body extension and said sprinkler
body;
a deflector movable between an activated position and a storage position within said
body extension and having at least one support arm projecting therefrom, said retaining
member coupled to said at least one support arm at a fixed distance from said retaining
member, said support arm movably disposed within said body extension, wherein said

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deflector and said retaining member are positioned within said body extension when in said storage position;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body, said sealing assembly movable from a closed position wherein said sprinkler head is inactive to an open position wherein said sprinkler head is activated, and wherein said sprinkler body has a bottom formed with an annular shoulder and said sealing assembly further comprises an annular spring positioned within said annular shoulder and a rod formed with a section extending through said annular spring, said rod configured to place said annular spring in compression when said sprinkler head is inactive; and

a trigger assembly carried by said body extension and operably connected with said sealing assembly and said deflector.

13. (Amended)

[The] A sprinkler head [of claim 1] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice defining an inlet, and an outlet;
a body extension attached to said sprinkler body and having an extending section
extending beyond said outlet of said sprinkler body, wherein said body extension is formed
with at least one air exhaust port;

a retaining member positioned beyond said outlet and within said body extension, said
retaining member mounted to be movable relative to said body extension and said sprinkler
body;

a deflector movable between an activated position and a storage position within said
body extension and having at least one support arm projecting therefrom, said retaining
member coupled to said at least one support arm at a fixed distance from said retaining
member, said support arm movably disposed within said body extension, wherein said
deflector and said retaining member are positioned within said body extension when in said
storage position;

a sealing assembly configured to sealingly engage said outlet of said sprinkler body,
said sealing assembly movable from a closed position wherein said sprinkler head is inactive
to an open position wherein said sprinkler head is activated; and

a trigger assembly carried by said body extension and operably connected with said
sealing assembly and said deflector.

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17. (Amended)

The sprinkler head of claim 15, wherein said extending section is formed with [and] an inwardly extending member, said inwardly extending member arresting the movement of said retaining member when said sprinkler head is activated.

30. (Amended)

The sprinkler head as recited in claim [29] 31, wherein said annular ring and said at least one attachment arm are monolithic.

31. (Amended)


[The] A sprinkler head [of claim 29] for a fire extinguishing system comprising:
a sprinkler body having an orifice, said orifice having an inlet and an outlet;
a slidable deflector support assembly at least partially positioned within said central orifice, said deflector support assembly including an annular ring and at least one attachment arm depending from said annular ring and attached to said deflector, wherein said annular ring has an outer diameter, and wherein said sprinkler head further comprises a retaining ring positioned within said orifice, said retaining ring having an inner diameter, and wherein said inner diameter of said retaining ring is less than said outer diameter of said annular ring;
a deflector carried by said deflector support assembly and positioned in proximity to said outlet;
a trigger assembly carried by said sprinkler body;
a sealing member positioned within said orifice; and
a sealing assembly carried by said sprinkler body, said sealing assembly configured to urge said sealing member into sealing engagement with said inlet of said orifice.

Respectfully submitted,

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Date: February 28, 2003


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